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Volume 6 THE MONTHLY NEWSLETTER FOR ENERGY MANAGERS AND PUBLIC AFFAIRS OFFICERS Issue 1

Message To Energy Managers:

The three latest Navy and Marine Corps Energy Champions are serving as a model for all of us to follow. Congratulations!

Department of the Navy industrial activities are major consumers of energy. Making improvements to motors, adjustable-speed drives, air compressors, and steam systems can generate huge money and energy savings.

Take advantage of the many tools and resources available to you to reduce your industrial energy consumption and costs.

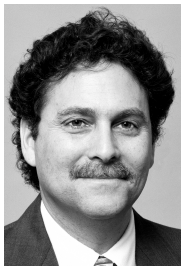
Congratulations to Norfolk Naval Shipyard (NNSY), winner of the 2000 Secretary of the Navy Energy Award in the Industrial Category. As the Shipyard's FY99 achievements demonstrate, industrial activities with the right energy management strategies can realize tremendous energy savings.

Sincerely,

William F. Tayler
Navy Shore Energy
Program Manager

Department Of The Navy Recognized With Three Energy Champs

In 2000, the U.S. Department of Energy's Federal Energy Management Program (FEMP) recognized three Navy and Marine Corps Energy Champions for their resourcefulness, innovation, and leadership.



Jim Heller

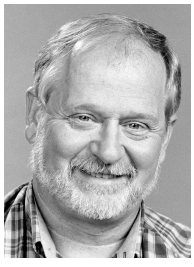
Leader

Twenty-first century citizenship is being led by division directors like Jim Heller of the Naval Facilities Engineering Service Center, Port Hueneme, CA, who, by leading the execution of the Navy's centralized energy program planning, reporting, and field support, has helped reduce energy consumption by 25 percent and avoid millions of dollars in energy costs.

Phil Beste

Innovator

Twenty-first century citizenship is being championed by energy managers like Phil Beste of the Naval Undersea Warfare Center Division, Keyport, WA, who, by implementing direct digital controls, lighting retrofits, and boiler plant upgrades, is helping the Navy save more than $300,000 each year.



Jim Gehrke

Catalyst

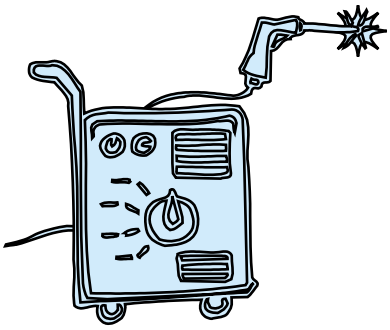
Twenty-first century citizenship is being defined by energy managers like Jim Gehrke of the Marine Corps Base at 29 Palms, California who, by implementing the installation of 17 new solar domestic hot water systems and the refurbishment of three existing solar systems, is helping the Department of Defense save $70,000 annually in natural gas and propane gas purchases.

To view these, previous Department of the Navy Energy Champions, as well as those from other Federal agencies, set your browser to <http://www.eren.doe.gov/femp/yhtp/energychamps.html>.

DON Energy Awareness Website: Access the tools on the Navy Energy website for ideas, planning tips, and tools. Set your browser to **<http://energy.navy.mil>** and scroll down the left-hand column to the Awareness pick.

Looking for an answer to an industrial energy question?

Ask the Clearinghouse.



Industrial activities face energy challenges not found on other Navy and Marine Corps bases. If you're stumped by an industrial energy question, contact the Office of Industrial Technologies (OIT) Clearinghouse, a U.S. Department of Energy initiative. Clearinghouse engineers and technical staff are available 11 hours a day, Monday-Friday to answer a wide range of industrial efficiency questions. The Clearinghouse also has access to industry experts around the country.

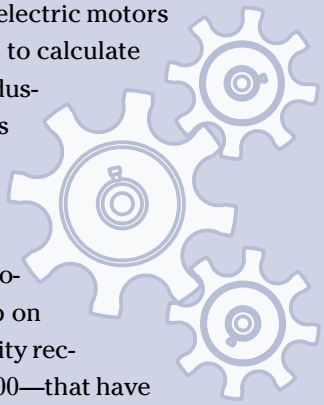
The Clearinghouse can help you find resources such as publications and software, or information about working with OIT and cost-sharing opportunities. You can get technical advice on a variety of topics, such as motor, steam, and compressed air systems.

Call the OIT Clearinghouse at 800-862-2086 from 9 am to 8 pm Eastern (6 am to 5 pm Pacific). Fax in your request at 360-586-8303 or e-mail to <clearinghouse@ee.doe.gov>. For additional information, set your browser to <www.oit.doe.gov/clearinghouse>.

BestPractices

BestPractices, a DOE OIT initiative, provides the tools you need to improve your plant's energy efficiency, enhance its environmental performance, and increase its productivity. Set your browser to <http://www.oit.doe.gov/bestpractices>.

The BestPractices software collection enables you to choose, apply, and maintain electric motors and adjustable speed drives, to calculate the economic thickness of industrial insulation, and to assess your pumping system.



Their collection of databases helps locate motor manufacturers and service providers. You can also read up on energy, waste, and productivity recommendations—nearly 42,000—that have been made to other manufacturing plants.

The databases and much of the software can be accessed directly from the following BestPractices website: <http://www.oit.doe.gov/bestpractices/software_databases/>. You can order the software not available from the website through the OIT Clearinghouse.

Did You Know...

Motors

- DOE estimates motors use 64% of industrial electricity.
- Energy efficiency advocates Amory and Hunter Lovins calculate that big motors use their own capital cost's worth of electricity every few weeks. This means switching to more efficient motors can provide a quick payback.

Steam

- Over 45% of all the fuel consumed by U.S. manufacturers is used to produce steam. Industry pays approximately $18 billion (1997 dollars) annually to feed the boilers generating the steam.
- A typical industrial facility can realize steam savings of 20% by improving its steam system.
- If steam system improvements were adopted industry-wide, the benefits would be $4.0 billion in fuel cost reductions and 32 million metric tons of emission reductions.

Compressed Air

- Compressed air systems use $1.5 billion per year in electricity and generate half of one percent of U.S. emissions.
- Optimization of compressed air systems can provide energy efficiency improvements of 20%-50%.

SECNAV Energy Award Winners

Norfolk NSY Recognized

For Outstanding Energy Savings Program

Norfolk Naval Shipyard (NNSY), VA, is the winner of the FY99 Secretary of the Navy Energy Award in the Industrial Category—receiving a monetary award of $35,000 and the privilege of flying the SECNAV energy flag for one year.

NNSY implemented major improvements in heating and cooling in FY99, saving millions of dollars a year in energy costs.

NNSY privatized its Refuse Derived Fuel plant to Southeastern Public Service Authority effective 1 July 1999. The plant burns trash collected throughout the area to produce steam and most of the electricity that the Shipyard uses.

A compressed air system improvement for electrical energy savings, costing $429,000, is projected to save $117,000 and 12,200 MBTU annually.

Activity-funded projects totaling $1,243,000 are projected to save nearly $2 million and 150,000 MBTU annually. Projects included replacing 68 high pressure steam traps, 250 low pressure steam traps, existing underground steam lines with direct bury steam lines, 110 window air conditioner units with energy-efficient units, and an existing pressure relief valve with a thermostatically controlled pressure relief valve. Projects involve installing occupancy sensors and missing insulation on steam pipes.

NNSY formed an energy conservation alliance with the Naval Atlantic Meteorology and Oceanography Center to improve weather forecasting, enabling NNSY to secure steam heat on the earliest possible date, to reinitiate steam heat on the latest possible date, and to improve the accuracy of utility budget forecasts.

Norfolk Naval Shipyard and Public Works Center initiated direct digital controls (DDCs) project commissioning specifications on all heating, ventilation, and air conditioning (HVAC) DDC installations, improving customer satisfaction and reducing service calls to correct DDC-related problems by thoroughly testing both components and logic functions.

For more information, contact Michael Pyon at (757)396-8041; E-mail: PyonMS@nnsy.navy.mil.

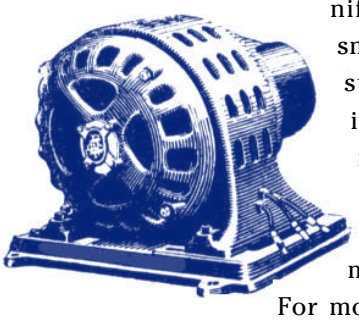
Adjustable Speed Drives

Try one out for a test drive

How much can you expect to save from using an adjustable speed drive (ASD) with a standard motor? The Wisconsin Center for Demand-Side Research reviewed ASD case studies and reported the following savings:

Air conditioners and heat pumps	20%
Pumps and compressors	20%-25%
Central refrigeration systems	25%-35%
Blowers and fans	30%-35%
Boiler fans and feedwater pumps	30%-50%

According to the Office of Industrial Technologies (OIT), the most cost-effective opportunities for ASDs are in situations where the equipment operates only partially loaded for significant time periods. Even small changes in speed can result in significant reductions in energy consumption. For instance, lowering the speed of a fan or pump by 20% may reduce shaft power requirements by as much as 50%.



For more about motor-driven systems, variable speed drive applications, and motor-drive interactions, visit OIT's Best Practices website at <www.oit.doe.gov/bestpractices/motors/>. Here you'll find detailed case studies, technical publications, ASD-related software, and a training and events calendar.

Check it out

Energy Matters

Energy does matter, as Energy Managers at Navy and Marine Corps industrial facilities know all too well. To serve Energy Managers with high energy-intensive industrial applications, the U.S. Department of Energy's Office of Industrial Technologies (OIT) publishes bimonthly the newsletter *Energy Matters*.

Set your browser to <http://www.oit.doe.gov/bestpractices/explore_library/subscription_text.shtml> and click on **subscription form** to join the more than 20,000 professionals who subscribe to this free publication. Formerly entitled *Turning Point Newsletter*, *Energy Matters* informs industrial end users of energy efficiency opportunities, technical issues, new products and services, and events related to a variety of industrial energy systems, including motor, steam, compressed air, process heating, and combined heat and power.

The January/February 2001 issue will carry plenty of valuable lessons to be learned by featuring maintenance mishaps (sorry, no identities will be revealed) that will show the importance of developing proper maintenance methods and plans for sizing equipment correctly. You'll also read about steps taken to improve maintenance and what benefits were gained.

Go to <http://www.oit.doe.gov/bestpractices/explore_library/energy_matters.shtml> to download past issues available in Word or PDF. Make sure to check out *Energy Matters Extra* as well, the online complement to the printed publication which offers additional coverage at <http://www.oit.doe.gov/bestpractices/explore_library/emextra/>.

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Watts News?

We want to hear from you.

Tell us about the energy initiatives you're working on, the problems you encounter, and the solutions you discover.

Submit article ideas, comments, or questions to:
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Alexandria, VA 22314
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Be sure to include your name and commercial phone number.

energized is a publication sponsored by the Energy and Utilities Management Division, Naval Facilities Engineering Command. The views and opinions expressed in this publication are not necessarily those of the Department of the Navy.

Printed by the Naval Facilities Engineering Service Center

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ENERGY EFFICIENCY

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NFESC
Code: ESC 22
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